

CONSTRUCTION VALUE ENGINEERING CONCEPT PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 04/10/2008

Contract

ID 070629-609
County St. Charles Route 364
Contractor Fred Weber, Inc.
Designed By Crawford Murphy & Tilly

Job No. J6U1028E
Original Bid Cost \$19,736,169.72
By Brian J. Carlson
Phone (636) 978-9835

VE 08-36

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages
Existing:

Construct Stage 2 of the project as shown in the J6U1028E plans. Under this scenario, the Route 364 mainline pavement will be constructed up to Woodstone Drive and existing Route 94 will be widened near the intersection of Jungermann Road. Slip ramps from both the North and South Outer Roads will be constructed to tie into Route 364. The Route 94 and ramp pavement is all considered temporary pavement to be removed on the next project J6U1028P.

Proposed:

Fred Weber, Inc. proposes to eliminate baskets in the temporary pavement and eliminate the stabilized permeable base layer on Route 94. All grades will be adjusted to match the final profile. We also propose to make modifications to the final traffic configuration of the J6U1028E project. This scenario would change the amount of grading and pavement to be constructed under this contract that will need to be added to the future J6U1028P project. According to CH2M Hill design firm, the next phase of Route 364 requires approximately 200,000 cubic yards of fill material. Our current project has us hauling 360,000 cubic yards of material to offsite stockpiles approximately 4 miles from the next project. We propose to eliminate the grading and mainline Route 364 pavement from Station 18+600 to 19+100. Temporary Ramp 2 will then be widened to accommodate three full lanes of traffic. The traveling public will be able to utilize the North and South Outer Roads and most of the proposed Route 364 pavement. Traffic will then be brought back onto Route 94 approaching Jungermann Road. Eliminating work in this area will create stockpile storage room for approximately 180,000 cubic yards of dirt and save MoDOT approximately \$500,000.00 by getting the material closer to the source for the J6U1028P project. These changes will also save on future traffic control by allowing construction of the future bridges over Woodstone Drive and Jungermann Road to occur without a major traffic switch. Motorists will already be traveling on the outer roads and they will not have to be detoured off of Route 364. Additionally, a portion of the Route 94 widening from Station 18+330 to 18+910 can be completely eliminated, saving an extra \$135,000. All of these concepts will save a tremendous amount of money for both the current J6U1028E project as well as the future J6U1028P project. The proposed changes will also help the schedule considerably by eliminating some of the paving and grading work for the current project.

2. Estimate of reduction in construction costs. \$1,371,554.35

MoDOT Savings - \$651,052.36

Fred Weber, Inc. - \$313,184.39

Contract under runs - \$407,317.60 (Add to future J6U1028P project)

(See attached spreadsheet with quantity adjustments)

MID MAY
4/25/08
Chas
Brian
Todd
John

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.
A significantly less amount of old Route 94 pavement will have to be maintained. Traffic will be traveling on more newly constructed pavement than the original traffic control plan. The amount of pavement striping to be maintained will also be reduced.

4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.

04/10/2008

(date)

5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.

05/01/2008 Need to know for grading and paving operations.

(date)

(effect)

6. Dates of any previous or concurrent submission of the same proposal.

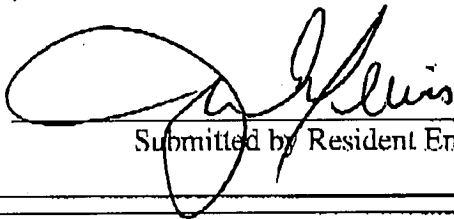
N/A

(date and/or dates)

Additional Comments:

**** Portion Below This Line To Be Filled Out By MoDOT ****

Comments: Recommend approval of V.E. Reviewed with P.M.,
Reserve Designer, A.E. All are okay with Concept. Still need to
Review further Review on other amounts & V.E splits (50 or 25)
But Concept of V.E. has merit.



Submitted by Resident Engineer

5/9/08

Date

Comments: CONCEPTUALLY THIS V.E. LOOKS GOOD. MUST DETERMINE
WHAT ITEMS FIT IN THE (50% OR 25%) RIGHT VE SPLITS.
MAKE SURE DESIGNERS REVIEW ALL CHANGES.

☒ Approval
Recommended

☐ Rejection



District Engineer

5-9-08

Date

Recommended

Comments: Conceptual approval given for this VE. All savings, less the work being moved to the next project J6U1028E, should be split 50/50 with the contractor. Savings^{as} stated above need to be documented to verify the true savings from this VE.

☒ Approval

☐ Rejection

02M for

David Allers

5/13/08

State Operations Engineer

Date

Distribution:

Resident Engineer, District Operations Engineer, State Operations Engineer

*Value Engineering Administrator - *MoDOT, P.O. Box 270, Jefferson City, MO 65102

Modify Staging, Temp. Payt. & Stockpile Material

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Unit Price	Difference	Unit Price	Total
0040	Class A Excavation	CUM	550,531.00	\$10.00	539,142.00	\$10.00	-11,389.00	\$10.00	(\$113,889.00)
0040	Class A Excavation - stockpile material	CUM	539,142.00	\$10.00	399,107.00	\$10.00	-140,035.00	\$10.00	(\$1,400,350.00)
0150	Stabilized Permeable Base (100 mm Thick)	SQM	44,658.00	\$8.00	44,658.00	\$8.00	-8,662.80	\$8.00	(\$60,422.40)
0160	Type 1 Aggregate for Base (100 mm Thick)	SQM	53,395.80	\$5.00	44,783.00	\$5.00	-8,552.80	\$5.00	(\$42,764.00)
0170	Type 5 Aggregate for Base (100 mm Thick)	SQM	63,682.00	\$7.00	69,218.50	\$7.00	5,526.50	\$7.00	\$38,685.50
0220	Pipe Aggregate Pavement Edge Drain	M	3,913.00	\$23.12	3,761.00	\$23.12	-162.00	\$23.12	(\$3,745.44)
0230	Outlet Pipes and Splash Pads	EA	28.00	\$735.00	28.00	\$735.00	-2.00	\$735.00	(\$1,470.00)
1305	Concrete Pavement (225 mm Non-Reinf.)	SQM	54,717.70	\$40.00	51,521.40	\$40.00	-3,196.30	\$40.00	(\$127,852.00)
1310	Concrete Pavement (250 mm Non-Reinf.)	SQM	40,504.80	\$41.00	39,553.20	\$41.00	-9,951.60	\$41.00	(\$285,015.60)
1320	Type A2 Shoulder	SQM	20,344.80	\$30.00	19,939.50	\$30.00	-405.30	\$30.00	(\$12,159.00)
New	Concrete Pavement (225 mm w/o baskets)	SQM	0.00	\$36.53	7,526.90	\$36.53	7,526.90	\$36.53	\$274,967.66
New	Conc Pavt (225 mm w/o baskets) Widen R p 2	SQM	7,526.90	\$36.53	7,759.10	\$36.53	232.20	\$36.53	\$8,182.27
New	Class A Excavation - stockpile material	CUM	0.00	\$10.00	140,035.00	\$10.00	140,035.00	\$10.00	\$1,400,350.00
New	Paving Accessories	SQM	0.00	\$3.47	12,879.60	\$3.47	12,879.60	\$3.47	\$44,692.21

VE Savings to be shared (50/50)

(\$288,500.81)

MoDOT Portion - 50%

(\$144,250.40)

Fred Weber, Inc Portion - 50%

(\$144,250.40)

Contract Underruns on JGU1028E - Add to Future JGU1028P Project

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Unit Price	Difference	Unit Price	Total
0150	Stabilized Permeable Base (100 mm Thick)	SQM	44,658.00	\$8.00	36,730.00	\$8.00	-7,928.00	\$8.00	(\$63,424.00)
0160	Type 1 Aggregate for Base (100 mm Thick)	SQM	44,783.00	\$5.00	38,866.00	\$5.00	-5,917.00	\$5.00	(\$29,585.00)
0220	Pipe Aggregate Pavement Edge Drain	M	3,751.00	\$23.12	3,371.00	\$23.12	-380.00	\$23.12	(\$8,785.60)
0230	Outlet Pipes and Splash Pads	EA	26.00	\$735.00	24.00	\$735.00	-2.00	\$735.00	(\$1,470.00)
0650	Concrete Traffic Barrier, Type C	M	1,127.60	\$135.00	937.50	\$135.00	-190.10	\$135.00	(\$25,650.00)
1310	Concrete Pavement (250 mm Non-Reinf.)	SQM	39,553.20	\$41.00	33,625.20	\$41.00	-5,928.00	\$41.00	(\$243,048.00)
1320	Type A2 Shoulder	SQM	19,939.50	\$30.00	18,229.50	\$30.00	-1,710.00	\$30.00	(\$51,300.00)

Total Underrun Amount JGU1028E Project

(\$407,317.60)

Projected Savings for Future JGU1028P Project

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Unit Price	Difference	Unit Price	Total
	Class A Excavation - stockpile material	CUM	140,035.00	\$10.00	140,035.00	\$5.00	0.00	(\$5.00)	(\$700,175.00)
	Projected Budget for Overruns (6% inflation)	EA	0.00	\$1.00	407,317.60	\$1.06	407,317.60	\$0.06	\$24,439.06

VF Savings to be shared (75/25)

(\$675,735.94)

MoDOT Portion - 75%

(\$506,801.96)

Fred Weber, Inc. Portion - 25%

(\$168,933.99)

Total Savings - MoDOT

(\$651,052.36)

Total Savings - Fred Weber, Inc.

(\$313,184.39)

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's ect)
- ☐ TCP/MOT
- ☒ Paving (PCCP, ect.)
- ☒ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☐ Misc. _____

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

Eliminating baskets in temporary pavement and stabilized permeable base on Rte 94. Changing amount of gradlog and paving on this project to provide a storage area for excess fill material on this project for use on the next project, thereby reducing the haul distance of that material on both projects and save on future traffic control by allowing construction of future bridges over 2 roadways to occur without a major traffic switch

SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.

Scan all.